

CLAIMS

What is claimed is:

1. In a wireless communication system including a radio network controller (RNC), a core network (CN) and at least one wireless transmit/receive unit (WTRU), a method of controlling the data bit rate of a radio link (RL) established between the RNC and the WTRU to maintain the quality of the RL, the method comprising:

(a) the RNC establishing a guaranteed data bit rate, a maximum data bit rate and a current data bit rate associated with the RL;

(b) the RNC sensing an event which indicates that the quality of the RL has substantially deteriorated;

(c) the RNC determining a target data bit rate based on the sensed event;

(d) if the target data bit rate is less than the guaranteed data bit rate, the RNC renegotiating a new guaranteed data bit rate with the CN; and

(e) the RNC reducing the current data bit rate to the target data bit rate.

2. The method of claim 1 further comprising:

(f) if the CN fails to approve the lower guaranteed data bit rate within a predetermined period of time, the RNC initiating a handover procedure for the RL.

3. The method of claim 1 wherein the event is the receipt of at least one measurement indicating that the transmission power of the WTRU is at a maximum level.

4. The method of claim 1 wherein the event is the receipt of at least one measurement indicating a block error rate (BLER) associated with the WTRU is too high for a predetermined period of time.

5. The method of claim 1 further comprising:

(f) the RNC determining the identity of a specific coded composite transport channel (CCTrCH) to be reconfigured; and

(g) the RNC reconfiguring the specific CCTrCH by removing one or more transport format combinations (TFC) from a transport format combination set (TFCS) associated with the specific CCTrCH.

6. The method of claim 1 wherein the RL is an uplink.

7. The method of claim 1 wherein the RL is a downlink.

8. A wireless communication system for controlling the data bit rate of a radio link (RL) to maintain the quality of the RL, the method comprising:

(a) a core network (CN);

(b) a radio network controller (RNC) in communication with the CN;

and

(c) at least one wireless transmit/receive unit (WTRU) in communication with the RNC via the RL, wherein:

(i) the RNC establishes a guaranteed data bit rate, a maximum data bit rate and a current data bit rate associated with the RL;

(ii) the RNC senses an event which indicates that the quality of the RL has substantially deteriorated;

(iii) the RNC determines a target data bit rate based on the sensed event;

(iv) the RNC renegotiates a new guaranteed data bit rate with the CN if the target data bit rate is less than the guaranteed data bit rate; and

(v) the RNC reduces the current data bit rate to the target data bit rate.

9. The system of claim 8 wherein the RNC initiates a handover procedure for the RL if the CN fails to approve the lower guaranteed data bit rate within a predetermined period of time.

10. The system of claim 8 wherein the event is the receipt of at least one measurement indicating the transmission power of the WTRU is at a maximum level.

11. The system of claim 8 wherein the event is the receipt of at least one measurement indicating a block error rate (BLER) associated with the WTRU is too high for a predetermined period of time.

12. The system of claim 8 wherein the RNC determines the identity of a specific coded composite transport channel (CCTrCH), associated with the RL, to be reconfigured by removing one or more transport format combinations (TFC) from a transport format combination set (TFCS) associated with the CCTrCH.

13. The system of claim 8 wherein the RL is an uplink.

14. The system of claim 8 wherein the RL is a downlink.

15. In a wireless communication system including a radio network controller (RNC), a core network (CN) and at least one wireless transmit/receive unit (WTRU), a method of controlling the current data bit rate of a radio link (RL) established between the RNC and the WTRU to recover from implementing a corrective action to maintain the quality of the RL by reducing the current data bit rate from a maximum data bit rate to a reduced data bit rate, the method comprising:

(a) the RNC determining that an event which indicates that the quality of the RL has substantially deteriorated does not occur during a predetermined time period;

(b) the RNC determining the identity of a specific coded composite transport channel (CCTrCH), associated with the RL, to be reconfigured;

(c) if the current data bit rate is not equal to the maximum data bit rate, the RNC increasing the current data bit rate; and

(d) the RNC reconfiguring the specific CCTrCH by adding one or more transport format combinations (TFC) to a transport format combination set (TFCS) associated with the specific CCTrCH.

16. The method of claim 15 further comprising:

(e) if the target data bit rate is greater than the maximum data bit rate, the RNC renegotiating a new maximum data bit rate with the CN.

17. The method of claim 15 wherein the event is the receipt of at least one measurement indicating the transmission power of the WTRU is at a maximum level.

18. The method of claim 15 wherein the event is the receipt of at least one measurement indicating a block error rate (BLER) associated with the WTRU is too high for a predetermined period of time.

19. The method of claim 15 wherein the RL is an uplink.

20. The method of claim 15 wherein the RL is a downlink.